

What is claimed is:

1. A navigation method, for magnifying a specified pattern portion of a semiconductor device set on a stage for observation to a high magnification factor, and for positioning the observational field of view of the pattern observation device at the specified pattern portion of the semiconductor device, comprising the steps of:

carrying out observational positioning of the pattern observation device to a low magnification factor so that an observation center of the specified portion is placed in an observational field of view to acquire low magnification factor pattern image data; for the semiconductor device;

calculating an offset amount between the observation center and a center of the observational field of view from the low magnification factor pattern image data and CAD graphics data corresponding to the low magnification factor pattern image data; and

performing positional control by compensating the stage error based on this offset amount data so that the observation center is aligned with the center of the observational field of view.

2. The navigation method for pattern observation of the semiconductor device of claim 1, wherein determination of the magnification factor value of the low magnification factor is carried out taking the stage precision of the stage into consideration for performing observational positioning of the pattern observation device to a low magnification factor so that the observation center of the specified portion is placed in the observational field of view.

3. The navigation method for pattern observation of the semiconductor device of claim 2, wherein the CAD graphics data describes the CAD graphics having its center on the observation center, and an offset amount is calculated from

the coordinate data of the observation center of the specified portion of the image based on the low magnification factor pattern image and the coordinate data corresponds to the center point of the CAD graphic.

4. The navigation method for pattern observation of the semiconductor device of claim 3, wherein the offset amount is calculated as an amount of image shift on and within the observation plane.

5. The navigation method for pattern observation of the semiconductor device of claim 1, wherein a pattern edge is extracted based on the low magnification factor pattern image data, and the offset amount is calculated from the obtained edge data and the CAD graphics data.

6. A navigation device for pattern observation of the semiconductor device for magnifying a specified pattern portion of a semiconductor device set on a stage for observation to a high magnification factor, and for positioning the observational field of view of the pattern observation device at the specified pattern portion of the semiconductor device comprising:

designation means for designating the specified portion;

memory means for storing the CAD data corresponding to the pattern;

low magnification factor pattern image data acquisition means for acquiring low magnification factor pattern image data of the semiconductor device by performing observational positioning at a low magnification factor so that the observation center of the specified portion is placed in the observational field of view in response to the designation means;

extraction means for extracting edge line segment data

by performing pattern edge extraction based on the low magnification factor pattern image data;

means for obtaining CAD line segment data corresponding to the low magnification factor pattern image data in response to the designation means and the memory means;

means for calculating an offset amount between the observation center and the center of the observational field of view by comparing the CAD line segment data to the edge line segment data; and

position control means for aligning the observation center with the center of the observational field of view by compensating a stage error of the stage based on the offset amount.

7. The navigation method for pattern observation of the semiconductor device of claim 1, wherein the CAD graphics data describes the CAD graphics having its center on the observation center, and an offset amount is calculated from the coordinate data of the observation center of the specified portion of the image based on the low magnification factor pattern image and the coordinate data corresponds to the center point of the CAD graphic.